

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-6 (Canceled).

Claim 7 (New): A network relay installation comprising a plurality of ports each connected to same or different types of network segments and each port connected to other of the plurality of ports through a forwarding unit that forwards a packet received from one port to another port,

wherein the plurality of ports including:

at least one monitored port whose traffic is to be monitored;

at least one monitoring port that monitors the traffic of the monitored port with a monitoring device that is connected to a network segment of the monitoring port;
and

at least one non-monitored port whose traffic is not monitored,

wherein each port including:

an input unit that receives a packet from a corresponding network segment;

an address resolution processing unit that determines a destination port of a received packet based on information in the packet, sends information indicative of the destination port and a monitoring port to the forwarding unit, appends control information to the received packet indicative of whether the received packet is required to be transformed before outputting from the destination port and the monitoring port, appends transformation information to the received packet that is used to transform the received packet before outputting from the destination port and

the monitoring port, and sends information appended packet to the forwarding unit via the input unit; and

an output unit that receives an information appended packet from the forwarding unit, transforms the received packet based on the control information and the transformation information included in the received packet, and outputs transformed packet to the network segment connected to the port, and

wherein the forwarding unit forwards a packet received from a port to at least the destination port and the monitoring port.

Claim 8 (New): The network relay installation according to claim 7, wherein when a monitored port receives a packet destined to a non-monitored port:

an input unit of the monitored port receives the packet; and

an address resolution processing unit of the monitored port determines that a destination port of received packet is the non-monitored port based on information in the received packet, sends information indicative of the non-monitored port and the monitoring port to the forwarding unit, appends control information to the received packet that indicates that the received packet is required to be transformed before outputting from the non-monitored port but is not required to be transformed before outputting from the monitoring port, appends transformation information that is used to transform the received packet before outputting from the non-monitored port, and sends information appended packet to the forwarding unit via the input unit, wherein:

the forwarding unit forwards the information appended packet to the non-monitored port and the monitoring port based on the information received from the address resolution processing unit of the monitored port,

an output unit of the non-monitored port receives the information appended packet from the forwarding unit, transforms the information appended packet based on the control information and the transformation information included in the information appended packet, and outputs transformed packet to a network segment connected to the non-monitored port, and

an output unit of the monitoring port receives the information appended packet from the forwarding unit and outputs the information appended packet without transforming to the monitoring unit.

Claim 9 (New): The network relay installation according to claim 7,

wherein when a non-monitored port receives a packet destined to a monitored port:

an input unit of the non-monitored port receives the packet; and

an address resolution processing unit of the non-monitored port determines that a destination port of received packet is the monitored port based on information in the packet, sends information indicative of the monitored port and the monitoring port to the forwarding unit, appends control information to the received packet that indicates that the received packet is required to be transformed before outputting from both the monitored port and the monitoring port, appends transformation information that is used to transform the received packet before outputting from both the monitored port and the monitoring unit, and sends information appended packet to the forwarding unit via the input unit,

wherein:

the forwarding unit forwards the information appended packet to the monitored port and the monitoring port based on the information received from the address resolution processing unit of the non-monitored port,

an output unit of the monitored port receives the information appended packet from the forwarding unit, transforms the information appended packet based on the control information and the transformation information included in the information appended packet, and outputs transformed packet to a network segment connected to the monitored port, and

an output unit of the monitoring port receives the information appended packet from the forwarding unit, transforms the information appended packet based on the control information and the transformation information included in the information appended packet, and outputs transformed packet to the monitoring unit.

Claim 10 (New): The network relay installation according to claim 7, wherein the control information includes a flag that is set on when the received packet is required to be transformed before outputting and that is set off when the received packet is not required to be transformed before outputting.

Claim 11 (New): The network relay installation according to claim 7, wherein the transformation information includes information to be performing routing processing of the received packet.

Claim 12 (New): A port monitoring method to be executed on a plurality of ports each connected to same or different types of network segments and each port connected to other of the plurality of ports through a forwarding unit that forwards a packet received from one port to another port, wherein the plurality of ports including at least one monitored port whose traffic is to be monitored; at least one monitoring port that monitors the traffic of the monitored port with a monitoring device that is connected to a network segment of the monitoring port; and at least one non-monitored port whose traffic is not monitored, the method comprising:

each port performing:

receiving a packet from a corresponding network segment;

determining a destination port of received packet based on information in the packet, sending information indicative of the destination port and a monitoring port to the forwarding unit, appending control information to the received packet indicative of whether the received packet is required to be transformed before outputting from the destination port and the monitoring port, appending transformation information to the received packet that is used to transform the received packet before outputting from the destination port and the monitoring port, and sending information appended packet to the forwarding unit via the input unit; and

receiving an information appended packet from the forwarding unit, transforming the received packet based on the control information and the transformation information included in the received packet, and outputting transformed packet to the network segment connected to the port, and wherein the forwarding unit forwards a packet received from a port to at least the destination port and the monitoring port.

Claim 13 (New): The port monitoring method according to claim 12, wherein when a monitored port receives a packet destined to a non-monitored port the method further comprising:

the monitored port performs receiving the packet; and

the monitored port determines that a destination port of received packet is the non-monitored port based on information in the received packet, sending information indicative of the non-monitored port and the monitoring port to the forwarding unit, appending control information to the received packet that indicates that the received packet is required to be transformed before outputting from the non-monitored port but is not required to be transformed before outputting from the monitoring port, appending transformation information that is used to transform the received packet before outputting from the non-monitored port, and sending information appended packet to the forwarding unit via the input unit,

wherein:

the forwarding unit forwards the information appended packet to the non-monitored port and the monitoring port based on the information received from the address resolution processing unit of the monitored port,

the non-monitored port receives the information appended packet from the forwarding unit, transforms the information appended packet based on the control information and the transformation information included in the information appended packet, and outputs transformed packet to a network segment connected to the non-monitored port, and

the monitoring port receives the information appended packet from the forwarding unit and outputs the information appended packet without transforming to the monitoring unit.

Claim 14 (New): The port monitoring method according to claim 12, wherein when a non-monitored port receives a packet destined to a monitored port;
the non-monitored port performs receiving the packet; and
the non-monitored port determines that a destination port of received packet is the monitored port based on information in the packet, sending information indicative of the monitored port and the monitoring port to the forwarding unit, appending control information to the received packet that indicates that the received packet is required to be transformed before outputting from both the monitored port and the monitoring port, appending transformation information that is used to transform the received packet before outputting from both the monitored port and the monitoring unit, and sending information appended packet to the forwarding unit via the input unit,

wherein:

the forwarding unit forwards the information appended packet to the monitored port and the monitoring port based on the information received from the address resolution processing unit of the non-monitored port,

the monitored port receives the information appended packet from the forwarding unit, transforms the information appended packet based on the control information and the transformation information included in the information appended packet, and outputs transformed packet to a network segment connected to the monitored port, and

the monitoring port receives the information appended packet from the forwarding unit, transforms the information appended packet based on the control information and the transformation information included in the information appended packet, and outputs transformed packet to the monitoring unit.

Claim 15 (New): The port monitoring method according to claim 12, wherein the control information includes a flag that is set on when the received packet is required to be transformed before outputting and that is set off when the received packet is not required to be transformed before outputting.

Claim 16 (New): The port monitoring method according to claim 12, wherein the transformation information includes information to be used for performing routing processing of the received packet.

Claim 17 (New): A computer-readable recording medium configured to store therein a computer program that causes a computer to implement a port monitoring method to be executed on a plurality of ports each connected to same or different types of network segments and each port connected to other of the plurality ports through a forwarding unit that forwards a packet received from one port to another port, the plurality of ports including at least one monitored port whose traffic is to be monitored; at least one monitoring port that monitors the traffic of the monitored port with a monitoring device that is connected to a network segment of the monitoring port; and at least one non-monitored port whose traffic is not monitored, the computer program causing the computer to execute steps including:

each port performing:

receiving a packet from a corresponding network segment;

determining a destination port of received packet based on information in the packet, sending information indicative of the destination port and a monitoring port to the forwarding unit, appending control information to the received packet indicative of whether the received packet is required to be transformed before outputting from the destination port and the monitoring port, appending transformation information to the received packet that is used to transform the received packet before outputting from the destination port and the monitoring port, and sending information appended packet to the forwarding unit via the input unit; and

receiving an information appended packet from the forwarding unit, transforming the received packet based on the control information and the transformation information included in the received packet, and outputting transformed packet to the network segment connected to the port, wherein the forwarding unit forwards a packet received from a port to at least the destination port and the monitoring port.

Claim 18 (New): The computer-readable recording medium according to claim 17, wherein when a monitored port receives a packet destined to a non-monitored port, the computer program causes:

the monitored port to perform receiving the packet;

the monitored port to determine that a destination port of received packet is the non-monitored port based on information in the received packet, sending information indicative of the non-monitored port and the monitoring port to the forwarding unit, appending control information to the received packet that indicates that the received packet is required to be

transformed before outputting from the non-monitored port but is not required to be transformed before outputting from the monitoring port, appending transformation information that is used to transform the received packet before outputting from the non-monitored port, and sending information appended packet to the forwarding unit via the input unit;

the forwarding unit to forward the information appended packet to the non-monitored port and the monitoring port based on the information received from the address resolution processing unit of the monitored port;

the non-monitored port to receive the information appended packet from the forwarding unit, transform the information appended packet based on the control information and the transformation information included in the information appended packet, and output transformed packet to a network segment connected to the non-monitored port; and

the monitoring port to receive the information appended packet from the forwarding unit and output the information appended packet without transforming to the monitoring unit.

Claim 19 (New): The computer readable recording medium according to claim 17, wherein when a non-monitored port receives a packet destined to a monitored port, the computer program causes:

the non-monitored port to perform receiving the packet;

the monitored port to determine that a destination port of received packet is the monitored port based on information in the packet, sending information indicative of the monitored port and the monitoring port to the forwarding unit, appending control information to the received packet that indicates that the received packet is required to be transformed before outputting from both the monitored port and the monitoring port, appending

transformation information that is used to transform the received packet before outputting from both the monitored port and the monitoring unit, and sending information appended packet to the forwarding unit via the input unit;

the computer program causes the forwarding unit to forward the information appended packet to the monitored port and the monitoring port based on the information received from the address resolution processing unit of the non-monitored port;

the computer program causes the monitored port to receive the information appended packet from the forwarding unit, transforms the information appended packet based on the control information and the transformation information included in the information appended packet, and outputs transformed packet to a network segment connected to the monitored port; and

the computer program causes the monitoring port to receive the information appended packet from the forwarding unit, transforms the information appended packet based on the control information and the transformation information included in the information appended packet, and outputs transformed packet to the monitoring unit.

Claim 20 (New): The computer-readable recording medium according to claim 17, wherein the control information includes a flag that is set on when the received packet is required to be transformed before outputting and that is set off when the received packet is not required to be transformed before outputting.

Claim 21 (New): The computer-readable recording medium according to claim 17, wherein the transformation information includes information to be used for performing routing processing of the received packet.